

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:844932 HCAPLUS

DOCUMENT NUMBER: 134:147837

TITLE: Synthesis and properties of chiral peptide nucleic acids with a N-aminoethyl-D-proline backbone

AUTHOR(S): Vilaivan, Tirayut; Khongdeesameor, Chanchai; Harnyuttanakorn, Pongchai; Westwell, Martin S.; Lowe, Gordon

CORPORATE SOURCE: Organic Synthesis Research Unit, Department of Chemistry, Faculty of Science, Chulalongkorn University, Bangkok, 10330, Thailand

SOURCE: Bioorganic & Medicinal Chemistry Letters (2000), 10(22), 2541-2545

CODEN: BMCLE8; ISSN: 0960-894X

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 134:147837

AB A synthon of D-proline substituted at the 4-position by thymine and at N by a flexible aminoethyl linker, has been used to prep. a novel chiral peptide nucleic acid (cPNA) with (2R,4R) stereochem. using solid phase methodol. The homothymine decamer cPNA binds to complementary polyadenylic acid to form 2:1 hybrid with high affinity and specificity according to UV and CD studies, whereas no binding to the corresponding polydeoxyadenylic acid was obsd.

IT 318515-52-5P 318515-53-6P 318515-54-7P

318515-55-8P

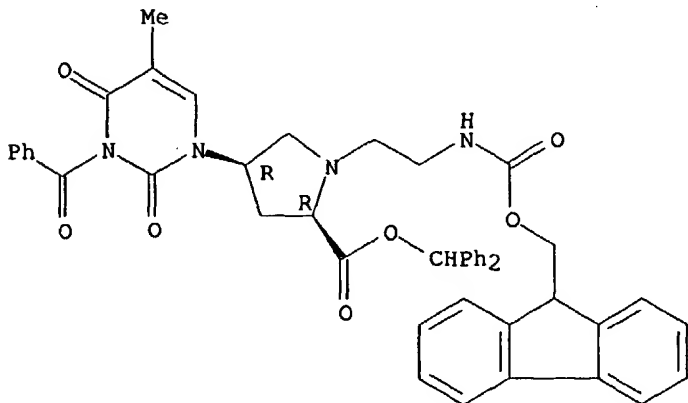
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(solid phase synthesis and properties of chiral peptide nucleic acids with a aminoethylproline backbone)

RN 318515-52-5 HCAPLUS

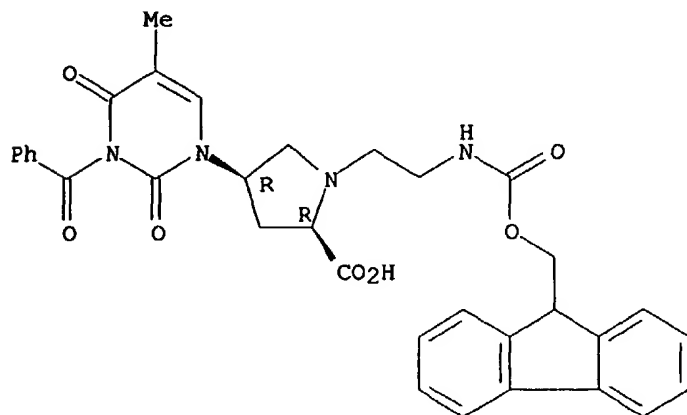
CN D-Proline, 4-(3-benzoyl-3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)-1-[2-[(9H-fluoren-9-ylmethoxy)carbonyl]amino]ethyl]-, diphenylmethyl ester, (4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 318515-53-6 HCAPLUS  
 CN D-Proline, 4-(3-benzoyl-3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)-  
 1-[2-[[[(9H-fluoren-9-ylmethoxy)carbonyl]amino]ethyl]-, monohydrochloride,  
 (4R)- (9CI) (CA INDEX NAME)

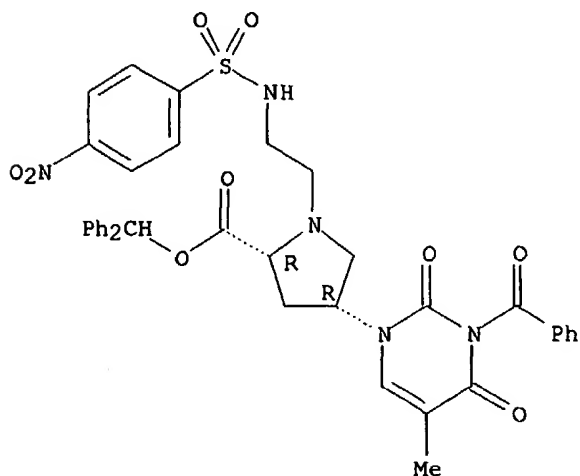
Absolute stereochemistry. Rotation (+).



● HCl

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 CN D-Proline, 4-(3-benzoyl-3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)-  
 1-[2-[[[(4-nitrophenyl)sulfonyl]amino]ethyl]-, diphenylmethyl ester, (4R)-  
 (9CI) (CA INDEX NAME)

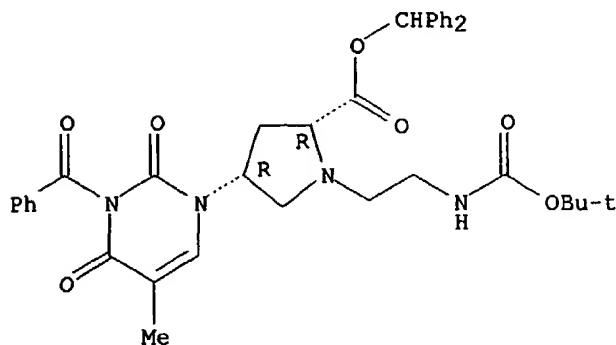
Absolute stereochemistry.



RN 318515-55-8 HCAPLUS

CN D-Proline, 4-(3-benzoyl-3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)-1-[2-[[[(1,1-dimethylethoxy)carbonyl]amino]ethyl]-, diphenylmethyl ester, (4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



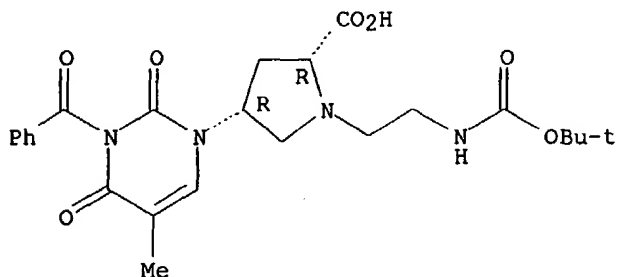
IT 318515-56-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(solid phase synthesis and properties of chiral peptide nucleic acids  
with a aminoethylproline backbone)

RN 318515-56-9 HCAPLUS

CN D-Proline, 4-(3-benzoyl-3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)-1-[2-[[[(1,1-dimethylethoxy)carbonyl]amino]ethyl]-, (4R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:663052 HCAPLUS

DOCUMENT NUMBER: 132:251401

TITLE: Aminoethylprolyl Peptide Nucleic Acids (aepPNA):  
Chiral PNA Analogues That Form Highly Stable  
DNA:aepPNA2 Triplexes

AUTHOR(S): D'Costa, Moneesha; Kumar, Vijayanti A.; Ganesh,  
Krishna N.

CORPORATE SOURCE: Division of Organic Chemistry (Synthesis), National  
Chemical Laboratory, Pune, 411008, India

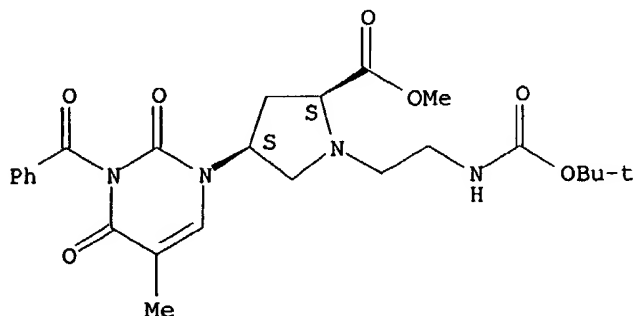
SOURCE: Organic Letters (1999), 1(10), 1513-1516  
 CODEN: ORLEF7; ISSN: 1523-7060  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB The replacement of the glycyl component in the peptide nucleic acid (PNA) backbone by a prolyl unit bearing a nucleobase leads to the aminoethylprolyl (aep) PNAs, which are chiral and cationic. The homo-oligomeric aepPNA binds to complementary DNA sequences with high affinity and sequence specificity, forming highly stable triplexes.

IT 253307-69-6P 253307-71-0P 253307-74-3P  
 253307-76-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. and reaction of in the synthesis of aminoethylprolyl peptide nucleic acids)

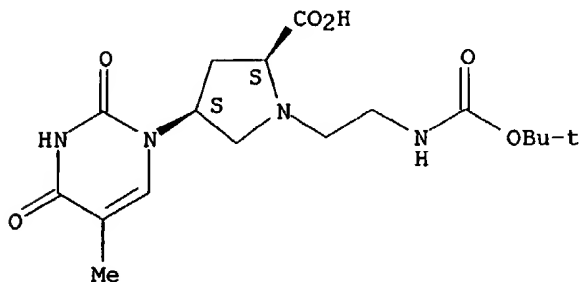
RN 253307-69-6 HCAPLUS  
 CN L-Proline, 4-(3-benzoyl-3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)-1-[2-[(1,1-dimethylethoxy)carbonyl]amino]ethyl]-, methyl ester, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 253307-71-0 HCAPLUS  
 CN L-Proline, 4-(3-benzoyl-3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)-1-[2-[[1,1-dimethylethoxy)carbonyl]amino]ethyl]-, (4S)- (9CI) (CA INDEX NAME)

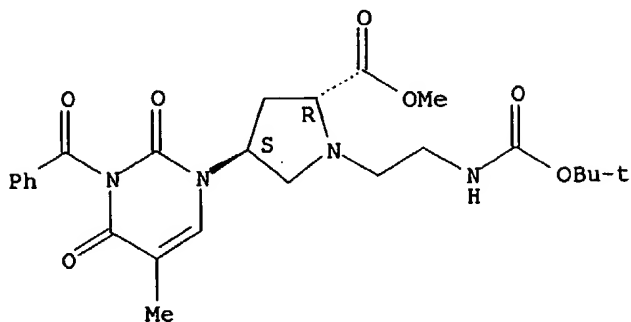
Absolute stereochemistry.



RN 253307-74-3 HCAPLUS  
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1-[2-[[[1,1-dimethylethoxy)carbonyl]amino]ethyl]-, methyl ester, (4S)-  
(9CI) (CA INDEX NAME)

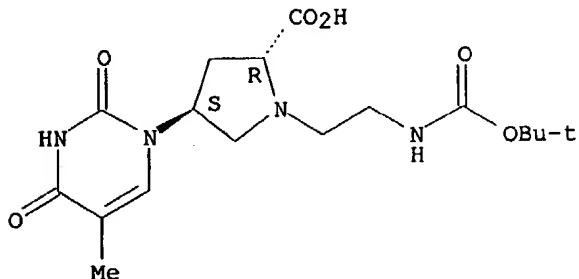
Absolute stereochemistry.



RN 253307-76-5 HCAPLUS

CN D-Proline, 4-(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-pyrimidinyl)-1-[2-  
[[[1,1-dimethylethoxy)carbonyl]amino]ethyl]-, (4S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 262614-79-9P 262614-81-3P 262615-03-2P  
262615-29-2P 262615-33-8P 262615-36-1P  
262615-38-3P 262615-58-7P 262615-78-1P  
262615-79-2P 262615-84-9P 262615-88-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and triplex stability of)

RN 262614-79-9 HCAPLUS

CN DNA, d(G-C-A-A-A-A-A-A-A-C-G), complex with peptide nucleic acid  
(H-T-T-T-T-T-T-T-(4S)-1-(2-aminoethyl)-4-(3,4-dihydro-5-methyl-2,4-dioxo-  
1(2H)-pyrimidinyl)-D-Pro)-Bal-OH (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 262408-13-9

CMF Unspecified

CCI MAN

CDES NS

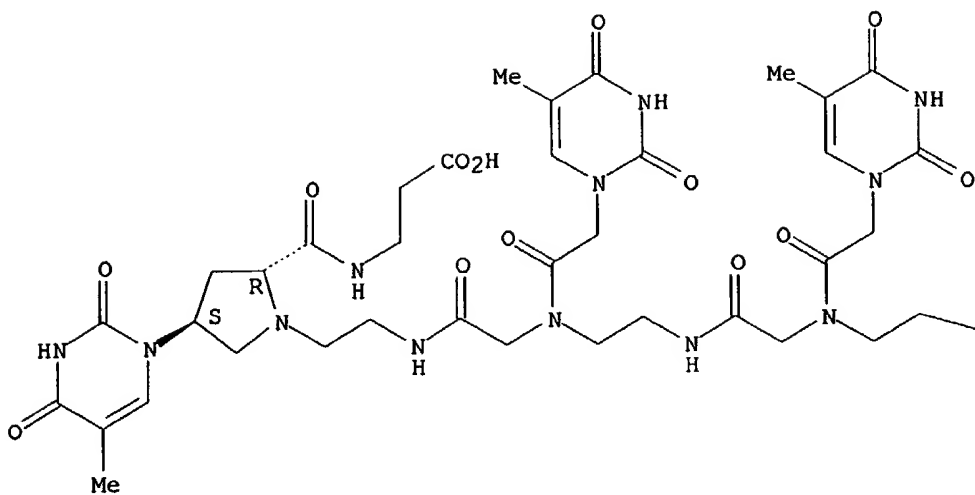
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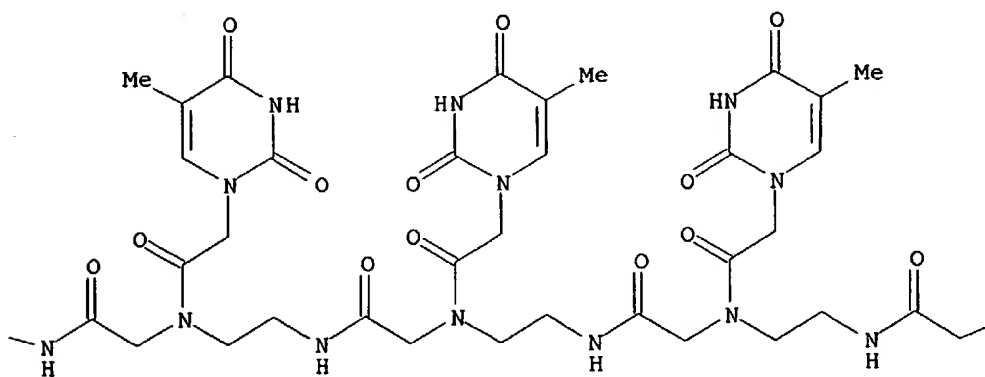
CRN 253307-78-7  
CMF C92 H121 N33 O33

Absolute stereochemistry.

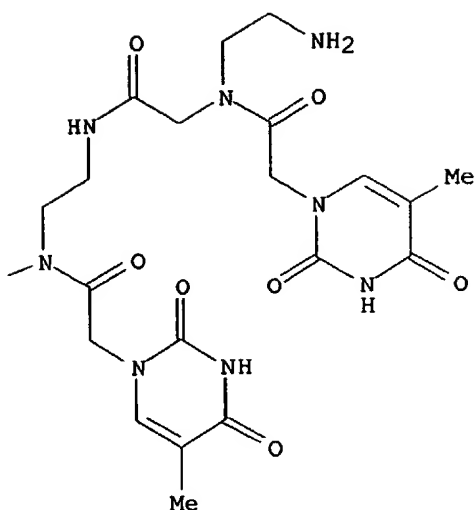
PAGE 1-A



PAGE 1-B



PAGE 1-C



RN 262614-81-3 HCAPLUS  
 CN DNA, d(G-C-A-A-A-A-A-A-C-G), complex with peptide nucleic acid  
 (H-T-T-T-T-T-T-T-(4S)-1-(2-aminoethyl)-4-(3,4-dihydro-5-methyl-2,4-dioxo-  
 1(2H)-pyrimidinyl)-Pro)-Bal-OH (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 262408-13-9  
 CMF Unspecified  
 CCI MAN  
 CDES NS

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

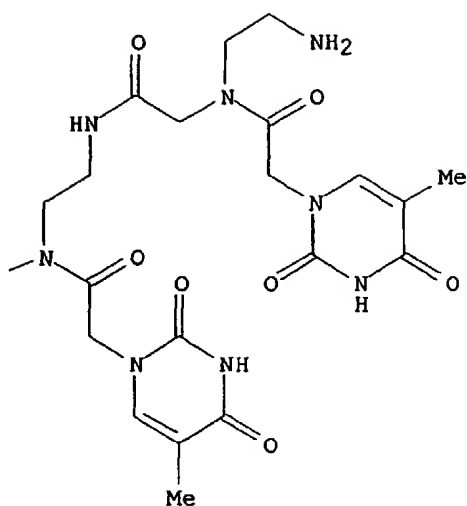
CM 2

CRN 253307-80-1  
 CMF C92 H121 N33 O33

Absolute stereochemistry.

Cc1cc(=O)[nH]c(=O)n1[C@H]2S[C@@H](CNC(=O)CCNC(=O)CNCCCNC(=O)CNCCCNC(=O)CC(C(=O)O)N)N2Cc3cc(=O)[nH]c(=O)n3C

PAGE 1-C



RN 262615-03-2 HCAPLUS  
 CN DNA, d(G-C-A-A-A-A-A-A-A-C-G), complex with peptide nucleic acid  
 (H-T-T-T-(4S)-1-(2-aminoethyl)-4-(3,4-dihydro-5-methyl-2,4-dioxo-1(2H)-  
 pyrimidinyl)-D-Pro-T-T-T-(4S)-1-(2-aminoethyl)-4-(3,4-dihydro-5-methyl-2,4-  
 dioxo-1(2H)-pyrimidinyl)-D-Pro)-Bal-OH (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 262408-13-9  
 CMF Unspecified  
 CCI MAN  
 CDES NS

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 253307-82-3  
 CMF C93 H123 N33 O32

Absolute stereochemistry.